

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RICHARD N. FARGO, MATTHEW JOHN DUNLAVEY,
JENNIFER MELANIE BASTIAAN,
MICHAELPAUL COSTA and CATALIN H. POPA

Appeal 2007-0679
Application 09/853,339
Technology Center 3600

Decided: October 23, 2007

Before WILLIAM F. PATE, III, MURRIEL E. CRAWFORD, and
JENNIFER D. BAHR, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Richard N. Fargo et al. (Appellants) appeal under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1, 14 and 27-33, the only pending claims. We have jurisdiction over this appeal under 35 U.S.C. § 6 (2002). This is the second appeal to this Board in this Application.

Subsequent to the decision (mailed February 26, 2004, hereinafter “Decision”) in the first appeal (Appeal No. 2004-0389), claims 1 and 14 have been amended, withdrawn claims 2-12 and 15-26 have been canceled, and claims 27-33 have been added.

Appellants’ claimed invention is directed to an improved support structure for an escalator that includes at least one stamping or pre-made module (Specification ¶ 1). The pending claims are directed to the embodiment of Figure 11, which includes a steel sheet 120 preferably welded in place, replacing tubular members adjacent the drive machine (Specification ¶ 32). Claim 1 is illustrative of the claimed invention and reads follows:

1. A support structure assembly for an escalator comprising:
 - a bottom landing support;
 - a top landing support; and
 - a rise for interconnecting said bottom landing support to said top landing support wherein said rise includes at least one module wherein the module comprises a steel sheet covering an escalator machine, said steel sheet having a top edge, a bottom edge and two side edges extending between said top edge and said bottom edge, respectively, said steel sheet presenting a continuous, unbroken and generally planar exterior surface from said top edge to said bottom edge and between said side edges.

THE REJECTIONS

The following rejections are before us for review.

Claims 14 and 30 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter that was not described in Appellants' Specification so as to enable one skilled in the art to make and/or use the invention.

Claim 32 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter Appellants regard as their invention.

Claims 1, 14 and 27-33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gschwendtner (US 6,374,981, issued April 23, 2002).

Claims 1, 14 and 27-33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kneipp (US 2,936,872, issued May 17, 1960) in view of Gschwendtner.

The Examiner provides reasoning in support of the rejections in the Answer (mailed February 14, 2006). Appellants present opposing arguments in the Appeal Brief (filed August 1, 2005) and Reply Brief (filed October 11, 2005).

THE ISSUES

The first issue is whether the Examiner has sustained the burden of advancing acceptable reasoning as to why one of ordinary skill in the art would not have been able to make and/or use the invention recited in claims 14 and 30 in light of Appellants' Specification without undue experimentation.

The second issue is whether the lack of strict antecedent basis for the claim language “other portions of the rise” in claim 32 renders the scope of the claim indefinite.

Also at issue is whether Appellants have demonstrated that the Examiner erred in determining the subject matter of claims 1, 14 and 27-32 would have been obvious to one of ordinary skill in the art at the time of Appellants’ invention in light of the teachings of Gschwendtner or Gschwendtner and Kneipp.

THE FACTS

1. The term “cover” is ordinarily understood to mean “to place something on, over, or in front of, so as to conceal, protect, or close” or “to extend over; overlay” (*Webster’s New World Dictionary* 327 (David B. Guralnik ed., 2nd Coll. Ed., Simon & Schuster, Inc. 1984).
2. Appellants’ steel sheet module 120 is illustrated in Figure 11 as extending along one side only of the escalator machine.
3. Gschwendtner discloses a double wall support construction for escalators having a bottom landing, a top landing and a rise connecting the bottom landing to the top landing (Figs. 1 and 2), wherein a supplementary wall support is mounted to a base wall support 4 (col. 1, ll. 4-6; col. 1, l. 63 to col. 2, l. 28).
4. Gschwendtner discloses several different embodiments of the supplementary wall support. The embodiment of the supplementary wall support 21 relied upon by the Examiner is illustrated in Figure 8 and consists of “solid steel plates in facing contact with the basic wall supports” (col. 4, ll. 9-12). The steel plates are, “*where required*,

provided with passage openings 22 and connected with the basic wall supports by screws (col. 4, ll. 12-14; emphasis ours). The screw connections are illustrated by horizontal lines adjacent the top and bottom edges of the solid steel plate (Fig. 8). Passage openings 22 are illustrated in more central locations spaced from the screw connections and, thus, appear to be passages distinct from holes used for screw connections. Accordingly, replacement of screw connections with welding would not affect the presence or absence of passage openings 22. Nevertheless, we find the language “where required” indicates that passage openings 22 may or may not be provided in the steel plates, depending on the requirements of the particular escalator application. Gschwendtner therefore discloses steel plates either with or without passage openings 22.

5. In describing the framework mode embodiment of Figure 4, Gschwendtner teaches that welds can be used in place of screw connections for connecting the supplementary walls to the base walls (col. 3, ll. 34 and 44-46).
6. Gschwendtner’s discussion and illustration of Figure 9 suggest that the supplementary wall support 21 described in Figure 8, consisting of steel plates, comprises a plurality of steel plates connected to each of the two basic wall supports 4 (col. 4, ll. 15-18; Figure 9). Gschwendtner’s Figure 9 also shows screw connections of welded-on flanges at the edges of the steel plates. *Id.*
7. Gschwendtner illustrates a cladding (not numbered) encasing the escalator conveying structure and base and supplementary wall

- supports 4 and 5 (Fig. 3). This cladding, also illustrated in Figure 1, does not appear to be part of the support structure for the escalator.
8. Kneipp discloses a moving stairway (escalator) having a support structure comprising two main girders 1, 2 constructed of steel tubes (col. 2, ll. 20-22; Fig. 2). Inner wall panels 12, 13 and outer wall panels 10, 11, resembling the cladding illustrated by Gschwendtner, are connected to the girders by horizontal members or arms and tubular sleeves (col. 2, ll. 34-39).

DISCUSSION

The Enablement Rejection

Insofar as the enablement requirement is concerned, the dispositive issue is whether an applicant's disclosure, considering the level of ordinary skill in the art as of the date of the applicant's application, would have enabled a person of such skill to make and use the invention without undue experimentation. *In re Strahilevitz*, 668 F.2d 1229, 1232, 212 USPQ 561, 563-64 (CCPA 1982). In calling into question the enablement of an applicant's disclosure, the examiner has the initial burden of advancing acceptable reasoning inconsistent with enablement. *Id.* See also *In re Marzocchi*, 439 F.2d 220, 169 USPQ 367 (CCPA 1971).

The Examiner's sole explanation as to why Appellants' Specification would not have enabled a person of ordinary skill in the art to make and/or use the invention recited in claims 14 and 30 is that "[t]he specification does not disclose the escalator machine being covered entirely (on all sides, not just on both sides) by the steel sheet modules" (Ans. 3). Even accepting the Examiner's interpretation of the claim language as requiring that the steel

sheet cover the escalator machine on all sides, the Examiner has not explained why a person of ordinary skill in the art would not have been able to make and/or use such an arrangement, even in the absence of such disclosure by Appellants, without undue experimentation. On that basis alone, we must conclude the Examiner has failed to make a prima facie case that Appellants' Specification is not sufficient to meet the enablement requirement for the subject matter of claims 14 and 30.

Moreover, we determine the Examiner has misconstrued the language of claims 14 and 30. We determine the scope of the claims in patent applications "not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction 'in light of the specification as it would be interpreted by one of ordinary skill in the art.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316, 75 USPQ2d 1321, 1329 (Fed. Cir. 2005) (en banc) (quoting *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364, 70 USPQ2d 1827, 1830 (Fed. Cir. 2004)). The term "cover" used in claims 14 and 30 does not require encapsulation or enclosure on all sides (Fact 1). Additionally, the "cover the entire" language appears in claims 14 and 30 within the context of defining a distance that the module extends along the rise. Accordingly, the claim language itself is sufficiently broad to include either coverage on all sides of the escalator (drive) machine or simply coverage or extension over at least one surface or side of the escalator (drive) machine. Such an interpretation is consistent with Appellants' underlying disclosure, which shows the steel sheet module 120 extending over only one side of the escalator machine (Fact 2).¹ We conclude Appellants' Specification does disclose the invention recited in

¹ This interpretation is also consistent with the interpretation of similar language by the panel in the prior appeal (Decision 8 n. 5).

claims 14 and 30, in accordance with its broadest reasonable construction in light of the Specification.

For the above reasons, the enablement rejection is reversed.

The Indefiniteness Rejection

The test for definiteness under 35 U.S.C. § 112, second paragraph, is whether “those skilled in the art would understand what is claimed when the claim is read in light of the specification.” *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576, 1 USPQ2d 1081, 1088 (Fed. Cir. 1986) (citations omitted). A claim may be invalid for indefiniteness if it is “insolubly ambiguous” and not “amenable to construction.” *Exxon Research & Eng’g Co. v. United States*, 265 F.3d 1371, 1375, 60 USPQ2d 1272, 1276 (Fed. Cir. 2001).

The Examiner finds claim 32 indefinite simply because “other portions of the rise” lacks strict antecedent basis in the claim. We do not agree with the Examiner. Claim 1, from which claim 32 depends, recites a rise that “includes” at least one module wherein the module “comprises” a steel sheet. This open-ended language leaves open the possibility of other portions of the rise and other portions of the module including the steel sheet.² The limitation in claim 32 that “said module is welded to other portions of the rise” in effect positively recites other portions of the rise in addition to the module comprising the steel sheet.

For the reasons set forth above, we conclude that a person of ordinary skill in the art would understand what is claimed when claim 32 is read in

² The transitional term “comprising” is inclusive or open ended and does not exclude additional, unrecited elements. *See In re Baxter*, 656 F.2d 679, 686, 210 USPQ 795, 802 (CCPA 1981).

light of the Specification. Claim 32 is thus “amenable to construction” and not “insolubly ambiguous.” The rejection is reversed.

The Obviousness Rejections

We turn our attention first to the rejection of claims 1, 14 and 27-33 as unpatentable over Gschwendtner.

Claim 1:

Appellants argue that, even if the steel plates are welded, as proposed by the Examiner (Ans. 4-5 and 8), rather than screwed as disclosed by Gschwendtner, to the basic support walls 4, the plates would still have passage openings 22 and thus would not present “a continuous, unbroken and generally planar exterior surface from said top edge to said bottom edge and between said side edges” as called for in claim 1 (App. Br. 6-7; Reply Br. 3). We agree with Appellants that the replacement of a screw connection with a welded connection of the steel plates to the basic support walls 4 would not necessarily result in elimination of any passage openings 22 in the plates (Fact 4) and that the continuous, unbroken and generally planar surface illustrated in Figure 1 of Gschwendtner relates to outer cladding which does not form part of the support structure 4, 21 or steel plates (Fact 7). We also find, however, that Gschwendtner discloses steel plates either with or without passage openings 22, depending on the requirements of a particular escalator system (Fact 4). Accordingly, Appellants’ argument regarding passage openings 22 does not persuade us that the Examiner erred in determining Gschwendtner suggests steel plates presenting “a continuous, unbroken and generally planar exterior surface from said top edge to said bottom edge and between said side edges” as called for in claim 1.” The rejection of claim 1 as unpatentable over Gschwendtner is sustained.

Claim 14:

Appellants argue that Gschwendtner's teaching that welding can be used to replace screws applies to the embodiment of Figures 4 and 5 and that, in the absence of any reference linking welding to the embodiment of Figure 8, Gschwendtner lacks a teaching of welding a steel sheet, much less welding a steel sheet as defined in claim 14 along edges of the steel sheet (App. Br. 8).

While there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness, "the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR Int'l. Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007).

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id., at 1740, 82 USPQ2d at 1396. We must ask whether the improvement is more than the predictable use of prior art elements according to their established functions. *Id.*

While Gschwendtner does not expressly indicate that the teachings with respect to welding as a replacement for screw connection of the supplementary wall support to the basic wall support applies to the embodiment of Figure 8, there is nothing in Gschwendtner's teachings with respect to the interchangeable nature of welding and screw connections in the Figure 4 embodiment (Fact 5) and the steel plate embodiment of Figure 8 (Fact 4) that would lead one of ordinary skill in the art to infer that the teaching of welding as a replacement for screw connection is not equally applicable to the embodiment of Figure 8. Further, Appellants have not shown how the use of a welded connection of steel plates to the basic support walls would produce unexpected results or present unique challenges to one of ordinary skill in the art. We therefore conclude the modification would have been obvious. Moreover, Gschwendtner's illustration of the screw connections along the top and bottom edges of the steel plate (Fig. 8) would have suggested welding along the top and bottom edges of the steel plate or sheet as called for in claim 14 and the illustration in Figure 9 of screw connections of welded-on flanges at the edges of the steel plates (Fact 6) would have suggested welding of adjacent plates to one another along their side edges.

In light of the above, Appellants' arguments fail to persuade us the Examiner erred in rejecting claim 14 as unpatentable over Gschwendtner. The rejection is sustained.

Claim 27:

In addition to the argument discussed above with regard to claim 1 that Gschwendtner's disclosure of passages 22 in the steel plates prevents Gschwendtner's steel plate from presenting "a continuous, unbroken and generally planar exterior surface from said top edge to said bottom edge and between said side edges," which we found unpersuasive for reasons explained above, Appellants also argue that (1) Gschwendtner lacks a rise comprised of a plurality of support sub-modules and (2) since escalator drive machines typically have been located under landings, not along the rise, Gschwendtner does not disclose a steel plate as claimed to cover an escalator drive machine (App. Br. 10-11). Neither of these arguments is persuasive.

First, Gschwendtner's teaching of "solid steel plates" in contact with "the basic wall supports" (Fact 4) leaves open the possibility that either a plurality of steel plates are secured to each basic wall support 4 or one steel plate is secured to each basic wall support 4. A person reading this disclosure would immediately envisage either a single plate on each basic wall support or a plurality of plates on each basic wall support.

When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under § 103.

KSR, 127 S.Ct. at 1742, 82 USPQ2d at 1397. *See also In re Jones*, 412 F.2d 241, 244, 162 USPQ 224, 226 (CCPA 1969) (Where there is a limited

universe of potential options, the selection of any particular option would have been obvious to one of ordinary skill in the art.) Accordingly, we conclude that the provision of either a plurality of plates secured to each basic wall support or a single plate secured to each basic wall support would have been obvious to a person of ordinary skill in the art. In fact, Gschwendtner's teachings and disclosure with reference to Figure 9 (Fact 6) strongly suggest that the supplementary wall structure is comprised of a plurality of steel plates. Gschwendtner thus discloses a rise comprised of a plurality of support sub-modules as called for in claim 27.

Claim 27 does not require that the steel sheet actually cover an escalator drive machine or that an escalator drive machine in fact be present within the rise, as Appellants' argument implies. The language "for covering an escalator drive machine" is merely intended use. Gschwendtner's steel plate appears to present an exterior surface reasonably capable of covering or overlaying (Fact 1) an escalator drive machine if appropriately placed within the rise and Appellants have not shown that this is not the case.

Appellants have not demonstrated the Examiner erred in rejecting claim 27 as unpatentable over Gschwendtner. The rejection is sustained.
Claim 28:

Appellants argue that Gschwendtner lacks a "teaching of a steel sheet having side edges that are attached to first and second sub-modules as claimed" (App. Br. 12). This argument is unpersuasive for the reasons explained above with reference to claim 14. The rejection of claim 28 as unpatentable over Gschwendtner is sustained.

Claim 29:

Claim 29 depends from claim 28 and further recites said steel plate is “welded along said side edges to connect said steel plate to said first one and said second one of the support sub-modules.” Appellants argue Gschwendtner provides no disclosure that the sub-modules have side edges, much less that the side edges are attached to other sub-modules by welding (App. Br. 13). For the reasons discussed above in regard to claims 14 and 28, these arguments are not well founded. The rejection of claim 29 as unpatentable over Gschwendtner is sustained.

Claims 30 and 33:

Claim 30 depends from claim 27 and further recites the steel plate “extends along said rise a distance sufficient to cover the entire escalator drive machine.” Claim 33 also depends from claim 27 and further recites the steel plate “extends along said rise a distance sufficient to cover an entire lateral side of the escalator drive machine.” With respect to claim 33, Appellants simply argue the Examiner has not pointed out where this feature is taught by Gschwendtner (App. Br. 16). The Examiner addresses this limitation on page 9 of the Answer. With respect to claim 30, Appellants argue Gschwendtner does not discuss any driving machine, much less an escalator drive machine positioned along the rise contrary to a traditional mounting location (App. Br. 14). This argument is unpersuasive for the same reasons discussed above with regard to claim 27. Specifically, claims 30 and 33 do not require an escalator drive machine positioned within the rise. The language “to cover the entire escalator drive machine” (claim 30) or “to cover an entire lateral side of the escalator drive machine” (claim 33) is merely intended use. Gschwendtner’s steel plate appears to present an

exterior surface reasonably capable of covering or overlaying (Fact 1) an escalator drive machine if appropriately placed within the rise and Appellants have not shown that is not the case. The rejection of claims 30 and 33 as unpatentable over Gschwendtner is sustained.

Claim 31:

Appellants argue Gschwendtner does not teach attaching adjacent support modules to one another (App. Br. 14). This argument is not well founded for the reasons already explained above with regard to claims 14, 28 and 29. The rejection of claim 31 as unpatentable over Gschwendtner is sustained.

Claim 32:

Appellants argue Gschwendtner (1) does not disclose a steel sheet with a continuous, unbroken surface from the top to the bottom and from side to side, (2) does not disclose the sheet being welded along the side edges for attachment to other portions of the rise, and (3) does not disclose covering an entire lateral side of the escalator machine located within the rise with the steel sheet (App. Br. 15). The first argument is unpersuasive for the reasons discussed above with regard to claim 1. The second argument is not persuasive for the reasons discussed above with regard to claims 14, 28, 29 and 31. The third argument is not persuasive for the reasons discussed above with regard to claims 27, 30 and 33.

Appellants' arguments thus fail to demonstrate the Examiner erred in rejecting claim 32 as unpatentable over Gschwendtner. The rejection is sustained.

Having determined, for the reasons discussed above, that Appellants' arguments fail to demonstrate the Examiner erred in rejecting claims 1, 14

and 27-33 as unpatentable over Gschwendtner, we also sustain the Examiner's rejection of claims 1, 14 and 27-33 as unpatentable over the combined teachings of Gschwendtner and Kneipp, notwithstanding our determination that Kneipp is unavailing for the purpose for which it was relied upon by the Examiner (Fact 8).

SUMMARY

The rejections under 35 U.S.C. § 112 are reversed and the rejections under 35 U.S.C. § 103(a) are affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED

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